REMARKS

Status of claims

Applicants thank the Examiner for the consideration given to the present application. Claims 42, 50, 57, 60, 69, and 70 have been amended. Support for these amendments are found in the specification and figures. No new matter has been added. Claims 42-72 are pending in the present application.

Specification

The abstract has been objected to because it exceeds 150 words in length. Accordingly, Applicants have amended the abstract.

Rejections Under 35 USC §102 and §103

Claims 42-45, 48, 50-51, 57, 60-61, and 63-65 have been rejected under 35 U.S.C. §102(b) as being anticipated by Gundrum (5,891,334). Claims 60 and 66 have been rejected under 35 U.S.C. §102(b) as being anticipated by Hunter (5,114,572). Claims 42, 49-50, 52, and 55 were rejected under 35 U.S.C. §102(b) as being anticipated by Williams (5,695,168). Claims 47, 54, and 59 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Gundrum. Claims 62 and 69-70 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Gundrum in view of Thomsen (4,725,354). Claim 71 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Gundrum in view of Thomsen as applied to claim 70 above, and further in view of Magnusson (6,027,644). Claim 72 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Gundrum in view of Thomsen as applied to claim 70 above, and further in view of Fritze (6,649,056). Claims 46, 53, 58, and 67-68 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Gundrum in view of Williams. Claim 56 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Gundrum in view of Reid (6,274,038). Applicants respectfully traverse these rejections.

All of Applicants' independent claims recite a gap that water does not flow into or through that is formed, in part, between either the first and second tubes or the first and second housings. Under 35 U.S.C. §102, a single prior art reference must, either expressly or inherently,

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teach each and every element of the claims. MPEP 2131. Also, in order to establish a prima facie case of obviousness under 35 USC §103, the Examiner has the burden of showing, by reasoning or evidence, that, in part, the prior art references (or references when combined) teach or suggest all the claim limitations. MPEP 2145.

Applicants respectfully submit that none of the references, singularly or in combination, teach or suggest a gap formed between first and second tubes or housings, wherein liquid does not flow into or through the gap as required by Applicants' claims 42, 50, 57, 60, 69, and 70. Applicants' independent claim 42 recites a water treatment cartridge comprising, *inter alia*, a gap formed and/or enclosed between the first tube, the second tube, and an outer surface of the housing such that no liquid may flow into this gap. Applicants' independent claims 50 and 57 recite a water treatment cartridge comprising, *inter alia*, a first tube and a second tube that surrounds at least a portion of the first tube, wherein a gap is formed between either the first and second tubes (claim 50) or between the sealing surfaces of first and second tubes such that liquid is prevented from flowing into the gap when the water treatment cartridge is sealingly engaged to the water treatment device. The Examiner alleges that Gundrum teaches a housing (25), a first tube (27), a second tube (33), and a gap (fig. 2) formed between the first tube (27) and the second tube (33). However, contrary to Applicants' claimed gap that is enclosed and/or no water flows into, the alleged gap taught by Gundrum is a passageway that is not enclosed and thus allows liquid to flow through it. For example, Gundrum teaches that the gap between first tube (27) and second tube (33) includes liquid brine that "flows upwardly between the cylindrical side wall and the brine of the housing and the outer surface of the filter cartridge, through the brine **flow passage 39** between the housing wall and the brine ring 32, **into an annular slot 56** in the cylindrical boss 28, and upwardly out through a brine port 57." (emphasis added, col. 6, lines 41-48). This liquid flow through the alleged gap is also depicted by the arrows in port 57 between first tube (27) and second tube (33) in FIGS. 1 and 2. Moreover, Gundrum's gap is formed between the first tube (27), the second tube (33), and an inside surface of housing (25), not an outside surface of the housing as claimed in Applicants' claims 42 and 57.

Additionally, the Examiner alleges that Williams teaches a water treatment cartridge comprising a housing (87, FIG. 1), a first tube (67) and a second tube (37) that surrounds the first tube (67) such that a gap (89) is formed between them (FIG. 1). In sharp contrast to Applicants'

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claimed gap that is formed and/or enclosed between the first tube, second tube, and an outside surface of the housing, Williams teaches the alleged gap (89) formed between the first tube (67), second tube (37), and an inside surface of housing (87). Also, the alleged gap (89) of Williams is also not enclosed and permits liquid to flow through it. It is actually an inlet for untreated water, wherein untreated water flows into and through it in order to enter into the filter media 15. (col. 5, lines 20-24), which is completely different than the gap claimed by Applicants. Therefore, neither Gundrum nor Williams teach or suggest, singularly or in combination with each other or any of the other applied references, a gap as claimed by Applicants in claims 42, 50, and 57.

Applicants' independent claim 60 recites a water treatment device for sealingly and releasably engaging a water treatment cartridge comprising, *inter alia*, a first housing and a second housing surrounding at least a portion of the first housing, wherein a gap is formed between an outside surface of the first housing and an inside surface of the second housing such that water does not flows into the gap. The Examiner alleges that Gundrum teaches a water treatment device comprising a first housing (40) having an outside surface and a sealing surface (o-rings 42, FIG. 2) and a second housing (28) having an inside surface and a sealing surface (threaded portion of outside surface), wherein a gap (56) is formed between the outside surface of the first housing (40) and the inside surface of the second housing (28). However, as set forth above, the alleged gap (56) in Gundrum is not a gap that prevents liquid from flowing into it, but a passageway that permits liquid to flow through it. For example, Gundrum teaches that the gap between first tube (27) and second tube (33) includes liquid brine that "flows upwardly between the cylindrical side wall and the brine of the housing and the outer surface of the filter cartridge, through the brine flow passage 39 between the housing wall and the brine ring 32, **into an annular slot 56** in the cylindrical boss 28, and upwardly out through a brine port 57." (emphasis added, col. 6, lines 41-48). This liquid flow through gap 56 is also depicted by the arrows in port 57 between the first tube (27) and the second tube (33) in FIGS. 1 and 2.

The Examiner also alleged that Hunter discloses a fluid treatment device comprising a first housing (64) having an outside surface and a sealing surface (o-rings 56 and 58) and a second housing (80) having an inside surface and a sealing surface (col. 5, lines 15-18), wherein a gap (70) is formed between the outside surface of the first housing (64) and the inside surface

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of the second housing (80). Hunter teaches that the alleged gap (70) is a radially offset vertical port that is fluidly connected to port 72 which is interchangeably an inlet and an outlet to the cartridge 12, depending upon the intended direction of the fluid flow within the assembly of Hunter. (col. 4, lines 31-36). Again, contrary to Applicants' claim 60, water does flow into the alleged gap (70) taught in Hunter. Therefore, neither Gundrum nor Hunter teach or suggest, singularly or in combination with each other or any of the other applied references, a gap as required in claim 60.

Applicants' independent claim 69 recites a water treatment device capable of sealingly and releasably engaging a water treatment cartridge that includes a first tube and a second tube, the water treatment device comprising, *inter alia*, an outlet housing for sealingly engaging the first tube and a vent housing for sealingly engaging the second tube, wherein when the water treatment device is sealingly engaged to a water treatment cartridge, a gap is enclosed and sealed between the sealed engagement of the outlet housing and a first tube of the water treatment cartridge and the sealed engagement of the vent housing and a second tube of the water treatment cartridge. Additionally, Applicants' independent claim 70 recites a water treatment system comprising, *inter alia*, a water treatment cartridge having a first tube and a second tube surrounding the first tube and a water treatment device having an outlet housing and a vent housing, wherein the first tube sealingly engages the outlet housing to form a first seal and the second tube sealingly engages the vent housing to form a second seal, and wherein a gap is enclosed between the first and second seals and does not permit a liquid to flow into the gap.

The Examiner alleges that Gundrum discloses a water treatment device (12) capable of sealingly engaging a water treatment cartridge that includes a first tube (20) and a second tube (33). Gundrum allegedly teaches that the water treatment device (12) includes an outlet housing (40) that sealingly engages the first tube (20) and a vent housing (28) that sealingly engages the second tube (33). The Examiner asserted that a gap (56) is formed between the outside surface of the outlet housing (40) and the inside surface of the vent housing (28). However, as set forth above, the alleged gap (56) in Gundrum is not a sealed gap that prevents liquid from flowing into it, but a passageway that permits liquid to flow through it. For example, Gundrum teaches that the gap between first tube (27) and second tube (33) includes liquid brine that "flows upwardly between the cylindrical side wall and the brine of the housing and the outer surface of the filter

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cartridge, through the brine flow passage 39 between the housing wall and the brine ring 32, **into an annular slot 56** in the cylindrical boss 28, and upwardly out through a brine port 57." (emphasis added, col. 6, lines 41-48). This liquid flow through gap 56 is also depicted by the arrows in port 57 between the first tube (27) and the second tube (33) in FIGS. 1 and 2.

Thomsen is cited by the Examiner as teaching a water treatment device wherein the head member (14) contains an air vent hole (38). Applicants submit that Thomsen is completely void of a gap formed between two seals, wherein liquid cannot flow into or through. Therefore, neither Gundrum nor Thomsen teach or suggest, singularly or in combination with each other or any of the other applied references, a gap as required in claims 69 and 70. Thus, Applicants respectfully submit that none of the references, singularly or in combination, teach all the limitations, specifically the gap, recited in Applicants' claims.

Accordingly, Applicants request the rejections of independent claims 42, 50, 57, 60, 69, and 70 under 35 U.S.C. §102(b) and/or 35 U.S.C. §103(a) to be withdrawn. As claims 43-49, 51-56, 58-59, 61-68, and 71-72 depend from independent claims 42, 50, 57, 60, 69, or 70, the rejection of these claims under 35 U.S.C. §102(b) and/or 35 U.S.C. §103(a) should be withdrawn as well.

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CONCLUSION

Applicants respectfully submit that the present application is in condition for allowance. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,
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